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Fixed mitre-bevels, when made with one leg only, frequently vary from the angle of 45° , or half a right angle, so that when two pieces which have been set out by such a tool are applied together, their incorrectness is increased two-fold; whereas, in Mr. Quarm's tool, that difficulty is obviated by the use of the short end of the blade; for when the long end thereof is fixed at about 45° , whatever may be the variation in the angle set out by the longer portion of the blade, the two pieces when applied together will form a right angle. It will also be found accurate in setting out the shoulders of the diminished rail of sash-doors, and will likewise answer for a square, a common bevel, and a true mitre-bevel.

No. XIV.

NEW METHOD OF MAKING HALF-ROUND
FILES.

The SILVER MEDAL was presented to the Representatives of the late Sir JOHN ROBISON, of Edinburgh, for his improved Plan of making Half-round Files; a Specimen of which has been placed in the Society's Repository.

SIR,

Edinburgh, January 5, 1843.

HAVING lately devised a mode of making half-round and round files with continuous teeth, instead of having them cut in narrow stripes, as hitherto practised, and believing that the process I have proposed may be followed with much advantage to the mechanical arts, I beg leave to communicate it to the Society of Arts, with the view that, if they approve of it, it may, through their

means, be made known to those to whom it may prove useful.

I propose, that instead of forming the blanks, which are to be made into half-round or round files, in their ultimate shape, that they should be made as if intended for flat equalling files, and that, while in this form, they should be cut on one side, and then creased by pressure in a copper or other soft metal swage, into their curved shape; *e. g.* a blank being struck, should be pressed in a swage (or passed between rolls with proper ridges and grooves) into the form of a half-round file; and when a round or tubular file is to be made from a similarly prepared blank, it should be first creased into the half-round form, and then creased on a steel mandril into the ultimate form required.

In justice to that eminent artificer Mr. Stubbs, of Warrington, it is proper that I should mention, that, on my communicating this plan to him, he informed me that his house had, thirty years ago, made some attempts to produce the same effect on half-round files; he at the same time sent me a file of their manufacture, made at that period, and said that the process had been abandoned on account of the difficulty they experienced in giving a proper shape to the files; the specimen sent explained at once the cause of the difficulty, as, instead of being of uniform breadth and thickness throughout its length, it was thinned off and tapered to a point, which necessarily increased the difficulty of communicating a regular curvature to the cutting face, a difficulty which is not experienced in the case when the blanks are uniform in their dimensions.

A Sheffield house, to which I communicated the plan, has taken it up, and on the first trial has produced an

excellent result. I venture to anticipate, therefore, that that desideratum in the workshop, a smooth half-round file which shall not make streaks or scratches on the work, may soon be obtainable by every filer.

I have the honour to be, Sir, &c. &c.

*To the Secretary of the
Society of Arts.*

JOHN ROBISON.

SIR,

Sheffield, Feb. 13, 1843.

WE have your favour of the 11th inst., with inquiry respecting the half-round files we have made on the principle communicated to us by Sir John Robison, and beg to say our Mr. Johnson will be at home in a few days, when he will have the pleasure of replying thereto.

We are, Sir, &c.

PER JOHNSON, CAMMELL, and Co.,

*To the Secretary of the
Society of Arts.*

H. J.

SIR,

Sheffield, Feb. 1843.

WE have now the pleasure to forward you a file, say half-round, manufactured on the principle communicated by Sir John Robison to us.

We consider the file a beautiful specimen, and also, that this plan is one of the greatest improvements introduced in file-making for some time.

Should you have the opportunity, we shall feel obliged by your recommending to the consumers of files this improvement, as we are now in a fit state to execute orders.

We are, Sir, &c. &c.

*To the Secretary of the
Society of Arts.*

JOHNSON, CAMMELL, and Co.